MONTHLY WEATHER REVIEW.

Editor: Prof. CLEVELAND ABBE.

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INTRODUCTION.

The REVIEW for July, 1895, is based on reports from about 2,884 stations occupied by regular and voluntary observers. These reports are classified as follows: 148 from Weather Bureau stations; 35 from U. S. Army post surgeons; 2,542 reports from State Weather Service and voluntary observers; 33 from Canadian stations; 96 through the Southern Pacific Railway Company; 30 from U. S. Life-Saving stations; monthly summaries from local services established in all States and Territories; and international simultaneous observations. Trustworthy newspaper extracts and special reports have also been used.

The WEATHER REVIEW is prepared under the general editorial supervision of Prof. Cleveland Abbe. Unless otherwise specifically noted, the text is written by the Editor, but the statistical tables are furnished by the Division of Records and Meteorological Data, in charge of Mr. A. J. Henry, chief of that division.

CLIMATOLOGY OF THE MONTH.

GENERAL CHARACTERISTICS.

The surface of the United States was generally covered by areas of high pressure, but the weather does not seem to have been warmer or drier than the normal; on the contrary, an unusual number of stations reported the occurrence of abnormally low minima and the deficits of accumulated temperatures continued to increase. The precipitation was deficient in the Lake Region and Ohio Valley. The water in the rivers was unusually low, except in the Red River, and the accumulated percentages of rainfall indicated impending drought. Numerous severe local storms of wind and rain occurred in the upper Mississippi Valley and the western slope of the Rocky Mountain Region.

ATMOSPHERIC PRESSURE.

[In inches and hundredths.]

The distribution of mean atmospheric pressure for the current month reduced to sea level, as shown by mercurial barometers not reduced to standard gravity and as determined from observations taken daily at 8 a. m. and 8 p. m. (seventy-fifth meridian time), is shown by isobars on Chart II. That portion of the reduction to standard gravity that depends on latitude is shown by the numbers printed on the right-hand border.

The *mean pressures* were highest in the South Atlantic and Gulf States and on the coast of Washington. The highest was 30.12, Key West; 30.11, Tampa, Jupiter and Titusville; 30.10, Fort Canby. The lowest mean pressures were in California, British Columbia, and Canada. The lowest was 29.82, Keeler.

The *current departures* from the adopted normal pressure for July show an excess in the South Atlantic and southern extremities of the Gulf States, and in Washington, Wyoming, and Nebraska. The greatest excess was Key West, 0.06. Pressure was deficient in a belt extending from southwestern Texas through northern Louisiana, Mississippi, Alabama, Georgia, South and North Carolina to Cape Henry, and in small regions on the Atlantic Coast from Nantucket to Atlantic City, at Fresno, and Yuma. The greatest deficit was Nantucket, 0.04.

As compared with the preceding month of June, the pressures reduced to sea level show a rise only in southern Florida, at Corpus Christi, and in a small region from El Paso to Pueblo. The maximum rise was Key West and Jupiter, 0.03. Throughout the rest of the country pressure fell. The maximum falls were: Sydney, Charlottetown, and Chatham, 0.16.

The systematic periodic diurnal variations of pressure are shown by the hourly means given in Table V.

HIGH AND LOW AREAS.

[By Prof. FRANK H. BIGELOW.]

The tracks of ten areas of high pressure, including the subdivision of Number IV, are plotted on Chart IV for the month of July. An inspection of the map shows that these originated or tended to linger in four distinct localities, viz: The North Pacific Coast, the South Atlantic Coast, the Lake Region, and the middle Rocky Mountain Slope, the latter being a place of dissipation of the highs. Thus, the water surfaces under the general high belt of middle latitudes, where it impinges upon the continent, were the places for highs to persist for many days in summer. The continuity of this belt is broken by the heated lands of the middle parts of the continent. The cooling of the air near the Lakes was also favorable for highs to form and to retain their position in that place during the current month.

The tracks of eleven areas of low pressure are plotted on Chart I. They prevail for the most part in the neighborhood of the northern circuit, or between the parallels 40° to 50°. The Rocky Mountain Slope, as far south as Kansas, was in some cases the source of a storm, and in a few others the place where they dissipated. The South Atlantic and the Gulf States appear not to have been visited by a distinct storm of any description.

HIGH AREAS.

I.—The month opened with a high area covering the Lake Region, with a relatively high barometer in the Mississippi Valley and over the South Atlantic States. Rain fell very generally in the Middle Atlantic States, the Ohio Valley, and